

ABSTRACT

In a plant comprising one or more electric machines constructed with insulated conductors and connected for heavy current via insulated conductors, the magnetic circuit in at least one of these electric machines is connected directly to a high supply voltage of 20 - 800 kV, preferably higher than 36 kV. The insulation of the electric machine is built up of a cable (6) placed in its winding and comprising one or more current-carrying conductors (31) with a number of strands (36) surrounded by outer and inner semiconducting layers (34, 32) and intermediate insulating layers (33). The conductors (31) may be group-wise connected in parallel and semiconducting layers are therefore not required around every conductor in the group. If the conductors (31) are connected in series with each other within the group a part insulation (35) is required which will withstand a few kV, whereas connection of the conductors (31) to every phase requires a strong part insulation (35) which will withstand the phase voltage of the high-voltage supply network.

20 (Figure 2.)